

ABSTRACT OF THE DISCLOSURE

A “row-diagonal” (R-D) parity technique reduces overhead of computing diagonal parity for a storage array adapted to enable efficient recovery from the concurrent failure of two storage devices in the array. The diagonal parity is computed along diagonal parity sets that collectively span all data disks and a row parity disk of the array. The
5 parity for all of the diagonal parity sets except one is stored on the diagonal parity disk. The R-D parity technique provides a uniform stripe depth and an optimal amount of parity information.